DOCUMENT RESUME

ED 322 204 TM 015 410

AUTHOR Harrison, Patti L.; And Others
TITLE Comparison of Three Draw-A-Person Scoring Systems for Young Children.
PUB DATE Apr 90
NOTE 6p.; Paper presented at the Annual Meeting of the National Association of School Psychologists (San Francisco, CA, April 1990).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Child Development; Cognitive Ability; *Cognitive Tests; Comparative Analysis; Educational Diagnosis; Grade 1; Kindergarten Children; *Nonverbal Ability; Primary Education; *Scoring; *Screening Tests; *Young Children
IDENTIFIERS *Draw a Person Test; Goodenough Draw a Man Test; McCarthy Draw a Child Test; Naglieri Draw a Person Test

ABSTRACT

Draw-A-Person (DAP) techniques are often used as developmental screening measures of non-verbal cognitive ability, particularly for young children who are being screened for possible early intervention services. The validity of the interchangeable use of three DAP scoring systems for kindergarten students was investigated by comparing scores and determining the relationship between the scores and predictive criterion measures of school aptitude and achievement. Subjects were 75 kindergarten students (42 females and 33 males) in a rural elementary school. Subjects were given the same instructions to draw a person, and results were scored by each of three systems: (1) the Goodenough-Harris Drawing Test of D. B. Harris (1963); (2) the McCarthy Draw-A-Child subtest of the McCarthy Scales of Children's Abilities (D. McCarthy, 1972); and (3) the Draw-A-Person scoring system of J. A. Naglieri (1988). In April of the children's first-grade year, 11 months after administration of the DAP tests, children were given the Stanford Achievement Test and the Otis Lennon School Ability test to establish predictive validity criterion data for the 60 subjects in the study who were still enrolled in the school. Results support a strong relationship between the scores of the three measures. However, there were significant differences in the mean scores, suggesting that different measures may result in different screening decisions. Results provide some limited support for the validity of the three measures in predicting later school ability and achievement. Three tables contain data from the study. (SLD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
PATTI HARRISON
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

ED322204

Comparison of Three Draw-A-Person Scoring Systems for Young Children

Patti L. Harrison, Carol S. Schmitt, and Loreta Holder Brown
The University of Alabama

Paper presented at the meeting of the National Association of School Psychologists, San Francisco, CA, April, 1990

Draw-a-person (DAP) techniques are often used as developmental screening measures of nonverbal cognitive ability, particularly for young children who are being screened for possible early intervention services. DAP measures have several positive characteristics for screening of young children (Kaufman & Kaufman, 1977; Naglieri, 1988; Sattler, 1988). They are adaptable to group administration and are easily incorporated into a test battery. Administration of drawing measures may be less threatening to young children than are other measures. DAPs may be less culturally-loaded and less influenced by linguistic variables than other instruments for the assessment of ethnic minorities. Finally, research has supported the usefulness of DAP measures in predicting school readiness and academic achievement.

There are several developmental DAP scoring systems. The Goodenough-Harris Drawing Test (Harris, 1963) has, for many years, been the most frequently used scoring system, but has received many criticisms directed at the outdated norms and scoring guidelines (Naglieri, 1988; Sattler, 1988). The Draw-A-Child subtest of the McCarthy Scales of Children's Abilities (McCarthy, 1972) has also received support as a reliable and valid developmental drawing measure (Kaufman, 1977). The Draw-A-Person (Naglieri, 1988) provides a newer alternative to the Goodenough-Harris and McCarthy measures. The purpose of the present study was to investigate the validity of the interchangeable use of the three DAP scoring systems for kindergarten students by comparing scores from the measures and determining the relationship between the scores and predictive criterion measures of school aptitude and achievement.

Method. The subjects for the study were 75 children enrolled in kindergarten classes of an elementary school in a rural school district. The children ranged in age from 5 years, 5 months to 6 years, 9 months at the time of initial data collection; 42 were female and 33 were male. Black and white children were about equally represented in the sample. The school is the only elementary school in a town with a median income significantly below the national median; 25.1% of the citizens in the town live below the poverty level. Subjects were recruited for the present study by distributing consent forms to parents; all subjects for whom parental consent was obtained were included in the study if they were present at school on the days that data were collected.

Subjects were administered the DAP during May of their kindergarten year.

TM015410

BEST COPY AVAILABLE

Administration was conducted in small groups of children. Because the three DAP measures have somewhat different administration instructions and types of norms (i.e. Goodenough-Harris, man and woman; McCarthy, child; and Naglieri, man, woman, and self), children were given generic instructions to facilitate comparison of the three systems using one drawing per child. Children were each given a blank, white sheet of 8 1/2 by 11" paper and were told to draw a picture of a person, doing the best job they could. Children were given all the time they needed to finish their drawings.

Children's drawings were scored using each of the three scoring systems. Goodenough-Harris standard scores (M=100, SD=15) were obtained using Draw-A-Man norms. Raw scores were obtained using the scoring guidelines for the McCarthy Draw-A-Child subtest; the raw scores were converted to T-scores using tables developed by Harrison, Kaufman, and Naglieri (1980) and then lineralry transformed to standard scores (M=100, SD=15). Standard scores (M=100, SD=15) for self drawings were obtained using Naglieri's scoring system.

In April of the children's first grade year, 11 months after administration of the DAP, all children were administered the Stanford Achievement Test (SAT) and Otis Lennon School Ability Test (OLSAT) as part of their school's testing program. NCEs for the SAT and School Ability Indexes for the OLSAT were collected as predictive validity criterion data for the 60 subjects in the study who were still enrolled in the school.

Results and Discussion. Means and standard deviation for the three DAP scoring systems, OLSAT, and SAT are reported in Table 1. T-tests for paired observations indicated that the McCarthy mean of 102.6 (SD=13.5) was significantly higher ($p<.001$) than the Goodenough-Harris mean of 96.0 (SD=16.4), the Goodenough-Harris mean was significantly higher ($p<.001$) than the Naglieri mean of 92.9 (SD=15.5), and the McCarthy mean was significantly higher ($p<.001$) than the Naglieri mean.

Intercorrelations between the three DAP measures are reported in Table 2. The correlations indicate a strong relationship between scores obtained with the three systems.

The 11 month predictive correlations between the DAP scores and OLSAT and SAT are reported in Table 3. All correlations are quite low, with three correlations reaching statistical significance: McCarthy and SAT Reading (.39), Naglieri and OLSAT (.38), and Naglieri and SAT Reading (.38). Because the Naglieri scoring system emphasizes using three DAPs (man, woman, and self) for increased reliability and the present study only included one DAP (self), augmented coefficients (Gulliksen, 1950, pp. 89-93) were computed to estimate the predictive validity of the Naglieri system if all three drawings are used. The

augmented validity coefficients are shown in Table 3, and suggest there will be higher correlations with the criteria if all three Naglieri drawings are used.

The results of the study support a strong relationship between scores from three different DAP measures. However, significant differences between mean scores from the three measures suggest that different measures selected for use by practitioners may result in different estimates of nonverbal ability and different screening decisions for a child. Differences between the three measures may be related to the outdated norms for the Goodenough-Harris and differences between the scoring guidelines for the three measures. The study gave some limited support for the validity of the measures in predicting later school ability and achievement.

References

Gulliksen, H. (1950). Theory of mental tests. New York: Wiley.

Harris, D. B. (1963). Children's drawings as measures of intellectual maturity. New York: Harcourt, Brace, and World.

Harrison, P. L., Kaufman, A. S., & Naglieri, J. A. (1980). Subtest patterns and recategorized groupings of the McCarthy scales for EMR children. American Journal of Mental Deficiency, 85, 129-134.

Kaufman, A. S., & Kaufman, N. L. (1977). Clinical evaluation of young children with the McCarthy scales. New York: Grune & Stratton.

McCarthy, D. (1972). Manual for the McCarthy Scales of Children's Abilities. New York: Psychological Corporation.

Naglieri, J. A. (1988). Manual for Draw A Person: A quantitative scoring system. San Antonio, TX: Psychological Corporation.

Sattler, J. M. (1988). Assessment of children (3rd ed.). San Diego, CA: Jerome M. Sattler.

Table 1
Means and Standard Deviations of DAP Measures
and Predictive Validity Criterion Variables

	n	Mean	SD
DAPs			
Goodenough-Harris	75	96.0	16.4
McCarthy	75	102.6	13.5
Naglieri	75	92.8	15.5
Predictive Validity Criterion			
Otis-Lennon	60	108.0	15.5
Stanford			
Reading	62	59.9	20.9
Listening	60	65.4	22.5
Math	60	59.1	19.4
Composite	60	61.8	16.7

Table 2
Intercorrelations Between DAP Measures

	McCarthy	Naglieri
Goodenough-Harris	.80	.86
McCarthy	--	.82

Note. All correlations are statistically significant, $p \leq .001$

Table 3
Correlations between DAP Measures and Predictive Validity Criteria

	Goodenough-Harris	McCarthy	Naglieri[a]
Otis-Lennon	.26	.33	.38* (.43*)
Stanford Reading	.27	.39*	.38* (.43*)
Stanford Listening	.26	.37	.28 (.32)
Stanford Math	.16	.22	.18 (.20)
Stanford Composite	.22	.31	.27 (.31)

* statistically significant, $p \leq .05$, alpha corrected for multiple comparisons.

[a]For the Naglieri DAP, augmented validity coefficients are found in parentheses. The augmented coefficients (Gulliksen, 1950, pp. 89-93) estimate the validity of the Naglieri system if all three drawings (man, woman, and self) are used.